



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/736,181	12/15/2000	Jean-Pierre Balech	Q62176	8795

7590 12/08/2003

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC  
2100 Pennsylvania Avenue N.W.  
Washington, DC 20037-3213

EXAMINER

TRAN, KHANH C

ART UNIT

PAPER NUMBER

2631

DATE MAILED: 12/08/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/736,181	BALECH, JEAN-PIERRE
	<b>Examiner</b>	<b>Art Unit</b>
	Khanh Tran	2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  - Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1)  Responsive to communication(s) filed on 15 December 2000.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

- 4)  Claim(s) 1-6 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-6 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

13)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a)  The translation of the foreign language provisional application has been received.

14)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892) 4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_ .  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948) 5)  Notice of Informal Patent Application (PTO-152)  
3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6)  Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is rejected under 35 U.S.C. 101 because the claim recites the limitations that appears simultaneously claiming both statutory classes (a method and an apparatus), results in a claim which is not a proper claim under 35 U.S.C. 101. See for example *Ex parte Lyell* 17 USPQ2d (Bd.PA&I 1990).

2. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-6 are narrative in form, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 1-6 are narrative in form and do not contain positively recited steps of a specific process. Note that method claims should set forth a series of steps in the active tense, in an instruction like manner, thereby reciting an actual method. Dependent

claims should further limit base claims by reciting additional steps in a likewise fashion. See for example *Ex parte Erlich* 3USPQ2d 1001 at 1017 [6].

Examiner's note: for the purposes of art rejection, the following rejection arguments are made in the assumption that claims have been interpreted the way the claims being currently written.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3 and 5-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Billstrom U.S. Patent 5,983,101.

Regarding claims 1 and 6, Billstrom invention is directed to the configuration of a multi-point radio access system, which utilizes a number of different modulation methods, the modulation methods being distinguishable with regard to the bandwidth efficiency, but also with regard to the coverage range and the interference immunity. In figure 1, two terminals T1 and T2 are shown. Terminal T1 is located in sector S4<sub>C1</sub>, which is served by base station B1-4; T2 is located in sector S4<sub>C2</sub>, which is served by base station B2-4. In the particular configuration shown in figure 1, base stations B1, B2

have approximately 90<sup>0</sup> wide antennas. It can occur that the same frequency is being utilized both in sector S4<sub>C1</sub>, and sector S4<sub>C2</sub>. According to Billstrom teachings, if terminals T1 and T2 were assigned the same frequency (or equivalently the same channel), a potential interference problem would arise. In this regard, a signal transmitted on a frequency f1 to terminal T1 from base station B1-4 at site B1 would hit terminal T2 due to the wide antenna angle of base station B1-4. If terminal T2 is also using frequency f1, interference would result. Thus, base station B1-4 could cause interference at terminal T2. Figure 3 illustrates an overview of a base station network 100 wherein a number of base stations are connected to a network management system (NMS) 102. The NMS is, then, connected to a network planning processor (NPP) 110. According to one embodiment, the network planning processor (NPP) 110 executes a method including the following steps. A base station power density, constant for all bit rates, is selected for the selected base station. Similarly, for each of the plurality of subscriber terminals located within the coverage area of the selected base station, a terminal power density constant for all bit rates is selected. A maximum range is then determined for each of the plurality of modulation types. Then, for each of the plurality subscriber terminals, a modulation type is allocated to the corresponding radio link dependent upon range from the selected base station. A determination is made, for each of the plurality subscriber terminals, whether at the subscriber terminal there is an acceptable signal quality (signal to noise and interference ratio). If not, the next lower modulation type is allocated to the radio link corresponding to the subscriber terminal, which does not have the acceptable signal quality.

Regarding claim 2, according to Billstrom teachings, the method inherently applies to both fixed terminals and mobile terminals. If the subscriber terminal does not have the acceptable signal quality, the next lower modulation type is allocated to the radio link corresponding to the subscriber terminal.

Regarding claim 3, as recited in claim 1, the subscriber terminals, corresponding to end-users, are mobile terminals, which are allocated different modulation type if the subscriber terminals do not have the acceptable signal quality.

Regarding claim 5, as recited in claim 1, the radio links, representative of communication channels, are channels of a frequency.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Billstrom U.S. Patent 5,983,101.

Regarding claim 4, table 1 shows different examples of modulation types. Table 1, however, does not disclose 4 QAM and 16 QAM modulation types. Nevertheless, it

would have been obvious to one of ordinary skill in the art that the claimed modulation types can be easily implemented as part of the modulation types in Billstrom teachings.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hamalainen et al. U.S. Patent 6,289,217 B1 discloses "Adaptive Radio Link".

Hulbert et al. U.S. Patent 5,740,208 discloses "Interference Cancellation Apparatus for Mitigating the Effects of Poor Affiliation Between a Base Station and a Mobile Unit".

Scheibel, Jr. et al. . U.S. Patent 6,212,240 B1 discloses "Method and Apparatus for Conveying Data Between Communication Devices".

Onodera et al. U.S. Patent 6,442,146 B1 discloses "Time-Division Multiple-Access Communication System".

Yoshida U.S. Patent 6,452,964 B1 discloses "Adaptive Modulation Method".

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 703-305-2384. The examiner can normally be reached on Tuesday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 703-306-3034. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3800.

KCT

*Khai Tran* 1203/03  
Khai Tran  
**PATENT EXAMINER**